

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A data transmission method between ~~two~~ a first transceiver and a second transceiver ~~transceivers~~, comprising:
 - using more than one antenna for transmitting and receiving a signal at least in one of the first and second transceivers ~~transceiver~~;
 - dividing in the first transceiver symbols to be transmitted into a set of blocks, the number of ~~which is~~ blocks in the set being divisible by the number of transmitting antennas;
 - transmitting one block using each antenna;
 - receiving the blocks in the second transceiver using one or more antennas;
 - checking in the second ~~receiver~~ transceiver whether all blocks of the set were received successfully;
 - transmitting an acknowledgement to the first transceiver;
 - and, if the reception of the blocks of the set failed,
 - storing the blocks of the set in memory in the second transceiver;
 - retransmitting the same blocks of the set from the first transceiver in a predetermined format;
 - receiving the retransmitted blocks in the second transceiver using one or more antennas and combining them with the blocks in memory, and
 - selecting the predetermined format being selected in the method so that the blocks in the memory ~~transmitted first~~ and the retransmitted blocks form space-time block coding.
2. (Currently Amended) A method according to claim 1, ~~wherein each block to be transmitted first is multiplied~~ further comprising multiplying each block by a pre-determined matrix before first transmission of the block.
3. (Original) A method according to claim 1, wherein space-time block coding is performed on the combined blocks.

4. (Currently Amended) A data transmission method between ~~two~~ a first transceiver and a second transceiver ~~transceivers~~, comprising:

a) using more than one antenna for receiving and transmitting a signal in at least one of the first and second transceivers ~~transceiver~~;

b) dividing in the first transceiver symbols to be transmitted into blocks, the number of which is divisible by the number of transmitting antennas;

c) multiplying the blocks by coefficients describing a space-time block code to obtain at least two sets of blocks;

d) transmitting a first set of blocks using one antenna for each block;

e) receiving the first set of blocks in the second transceiver using one or more antennas;

f) checking in the second transceiver whether the first set of blocks ~~were~~ was received successfully;

g) transmitting an acknowledgement to the first transceiver;

and, if the reception of the first set of blocks failed,

i) storing the first set of blocks in memory in the second transceiver;

j) transmitting another set of ~~the next~~ space-time block coded blocks from the first transceiver; and

k) receiving ~~retransmitted~~ the other set of blocks in the second transceiver using one or more antennas and performing space-time decoding on the ~~retransmitted~~ other set of blocks and the blocks in memory; and if the blocks transmitted first were received successfully, proceeding moving to step b) dividing the first transceiver symbols to be transmitted into blocks.

5. (Currently Amended) A data transmission system comprising a first and a second transceiver, and further comprising

means for dividing in the first transceiver symbols to be transmitted into a set of blocks, the number of ~~which equals~~ blocks in the set being equal with the number of transmitting antennas;

means for transmitting one block using each antenna in the first transceiver;

one or more antennas in the second transceiver for receiving the set of blocks;

means in the second transceiver for checking whether the set of blocks ~~were~~ was received successfully;

means in the second transceiver for transmitting an acknowledgement to the first transceiver;

means in the second transceiver for storing the set of blocks in memory;

means in the first transceiver for selecting a format for the ~~same~~ blocks of the same set so that when the blocks in the memory of the second transceiver ~~transmitted first~~ are combined with ~~retransmitted~~ the blocks of selected format, coding of the combined blocks ~~forming~~ forms a space-time block code;

means in the first transceiver for retransmitting the ~~same~~ blocks of the same set in the selected format; and

means in the second transceiver for combining the blocks transmitted first with the retransmitted blocks.

6. (Original) A data transmission system according to claim 5, wherein the first transceiver comprises means for performing space-time block coding on the blocks to be transmitted.

7. (Original) A data transmission system according to claim 5, wherein the second transceiver comprises means for performing space-time block coding on the blocks received from retransmission and on the blocks retrieved from memory.

8. (Original) A data transmission system according to claim 5, wherein the first and the second transceiver are transceivers of a cellular radio system.

9. (Original) A data transmission system according to claim 5, wherein the data transmission system is an EDGE system.

10. (Previously Presented) A data transmission system according to claim 5, wherein the data transmission system is adapted to employ TDMA as a multiple access method.

11. (Previously Presented) A data transmission system according to claim 5, wherein the data transmission system is adapted to employ CDMA as a multiple access method.

12. (Previously Presented) A data transmission system according to claim 5, wherein the data transmission system is adapted to employ OFDM as a multiple access method.